West Virginia **Grade 8**

FlyBy Math™ Alignment
Mathematics Content Standards and Objectives

Standard 1: Number and Operations (MA.S.1)

Students will:
- demonstrate understanding of numbers, ways of representing numbers, and relationships among numbers and number systems;
- demonstrate meanings of operations and how they relate to one another; and
- compute fluently and make reasonable estimates

through communication, representation, reasoning and proof, problem solving, and making connections within and beyond the field of mathematics.

Number and Operations Objectives Students will:	***FlyBy Math*™ Activities**
MA.8.1.5 use estimation techniques with whole numbers, decimals, percent, fractions and mixed numbers to solve and verify solutions in application problems.	--Predict outcomes and explain results of mathematical models and experiments.
MA.8.1.6 solve application problems with whole numbers, decimals, fractions, percents and integers including, but not limited to, rates, tips, discounts, sales tax and interest.	--Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios.

Standard 2: Algebra (MA.S.2)

Students will:
- demonstrate understanding of patterns, relations, and functions;
- represent and analyze mathematical situations and structures using algebraic symbols;
- use mathematical models to represent and understand quantitative relationships; and
- analyze change in various contexts

through communication, representation, reasoning and proof, problem solving, and making connections within and beyond the field of mathematics.

Algebra Objectives Students will:	***FlyBy Math*™ Activities**
MA.8.2.3 use ratio and proportion to create and solve equations.	--Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios. --Use graphs to compare airspace scenarios for both the same and different starting conditions and the same and different constant (fixed) rates.
MA.8.2.5 apply algebraic equations and expressions to solve application problems.	--Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios.
MA.8.2.7 graph linear equations and inequalities within the Cartesian coordinate plane using ordered pairs table of values and appropriate technology.	--Represent distance, speed, and time relationships for constant speed cases using linear equations and a Cartesian coordinate system.

MA.8.2.9 determine the slope of a line given two-points or slope/y-intercept equation (y=mx+b).	--Interpret the slope of a line in the context of a distance-rate-time problem.
MA.8.2.10 represent and solve real world problems appropriate for 8th grade using multiple strategies.	--Represent distance, speed, and time relationships for constant speed cases using tables, bar graphs, line graphs, equations, and a Cartesian coordinate system. --Use tables, graphs, and equations to solve aircraft conflict problems.